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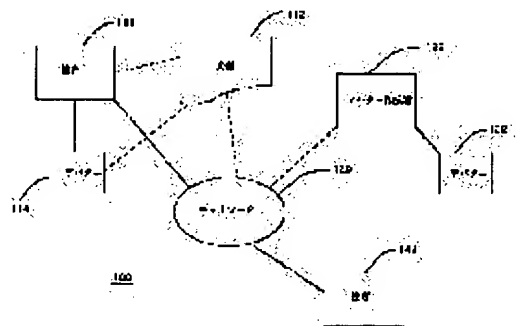
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(54) METHOD AND DEVICE FOR ANNOTATING DOCUMENT BY AUTONOMOUS PERSONAL AVATAR

(57)Abstract:

PROBLEM TO BE SOLVED: To promote communication between two users related to a document by using autonomous and movable computer characters, i.e., avatars.

SOLUTION: An avatar 114 is attached to a document 112 being argued. The avatar 114 is prepared by a certain user and attached to the document 112, in order to represent the viewpoint of the user. It is not necessary that the user be a writer 110. A second user can obtain the document 112 and the avator 114, execute correlation with the avator 114, independently of the 1st user and obtain the guidance of the document 112 and additional information related to an annotated part of the document 112. When plural avatars 114, 132 are attached to the document 112, the viewpoints of plural users can be represented.



LEGAL STATUS

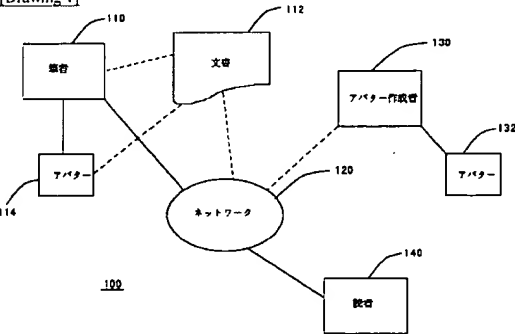
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DRAWINGS

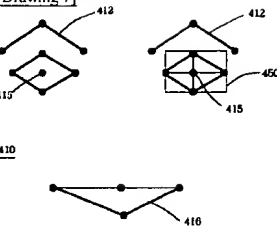
[Drawing 1]



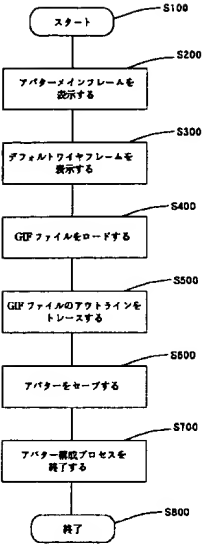
[Drawing 2]



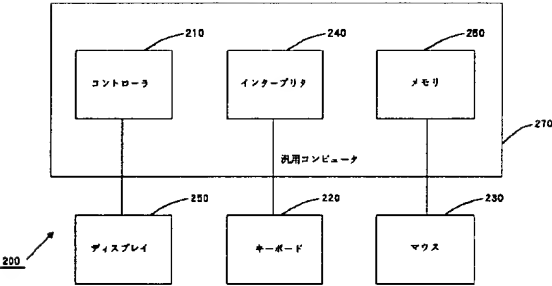
[Drawing 7]



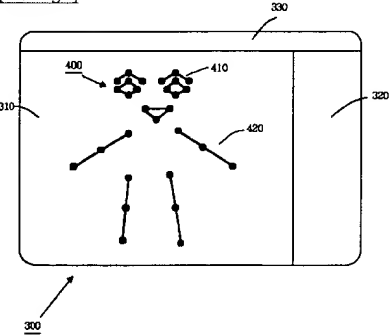
[Drawing 14]



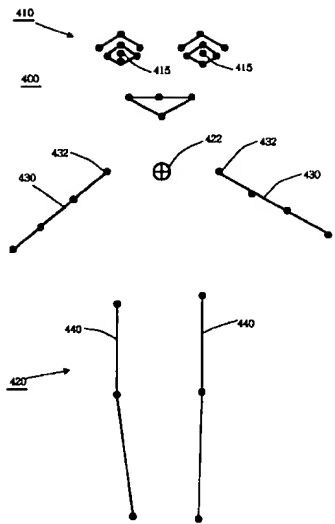
[Drawing 3]



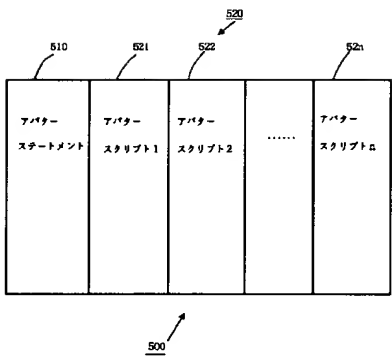
[Drawing 4]



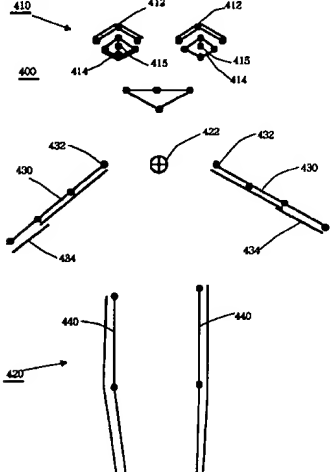
[Drawing 5]



[Drawing 3]



[Drawing 6]



[Drawing 9]

AVATAR Tim "tim. avt" 510

SCRIPT HELLO 521

1 for 5 :POSE FPOSE. rightArmUp

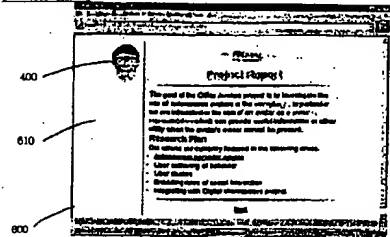
1 :AUDIO HELLO

20 for 5 :POSE FPOSE. rightArmDown

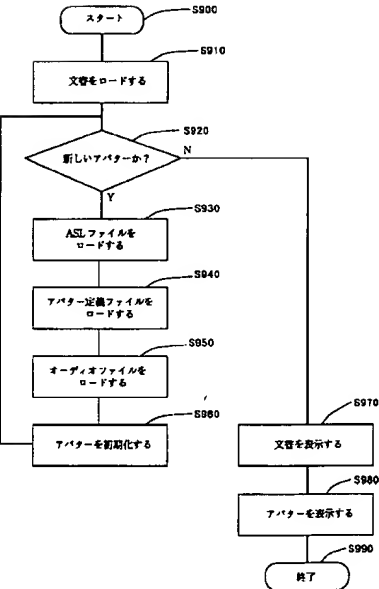
ENDSCRIPT

500

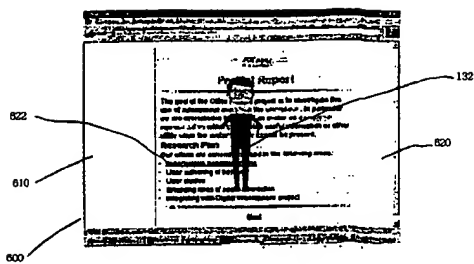
[Drawing 10]



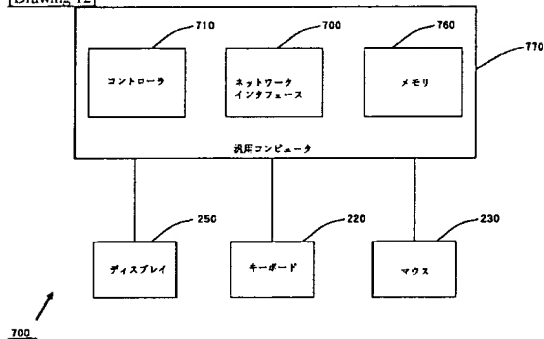
[Drawing 15]



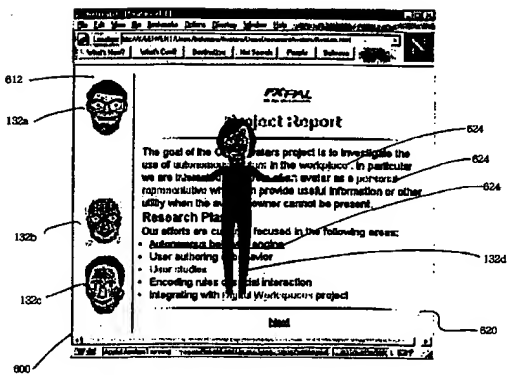
[Drawing 11]



[Drawing 12]



[Drawing 13]



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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the schematic diagram showing the example of an ABATA system.

[Drawing 2] It is drawing (example of a value monitor) showing ABATA constituted based on the mode of 1 operation of this invention.

[Drawing 3] It is the schematic diagram showing the example of an ABATA listing device.

[Drawing 4] It is drawing showing an ABATA composition mainframe.

[Drawing 5] It is drawing showing an ABATA wire picture.

[Drawing 6] It is drawing showing the example of the control point group of ABATA.

[Drawing 7] It is drawing showing edit of a control point.

[Drawing 8] It is drawing showing the logical expression of an ABATA statement.

[Drawing 9] It is drawing showing the example of an ASL file.

[Drawing 10] It is drawing (example of a value monitor) showing ABATA by which the dock was carried out to the HTML document.

[Drawing 11] It is drawing (example of a value monitor) showing ABATA appended to the HTML document.

[Drawing 12] It is the block diagram showing the outline of the equipment for reading the document on which ABATA expounded.

[Drawing 13] It is drawing (example of a value monitor) showing two or more ABATA by which the dock was carried out to the HTML document.

[Drawing 14] It is the flow chart which sketched the method of loading the document on which ABATA expounded.

[Drawing 15] It is the flow chart which sketched the method of constituting ABATA.

[Description of Notations]

100 ABATA System

110 Writer

112 Document

120 Network

130 ABATA Maker

132 152 ABATA

150 Window

200 ABATA Processor

210 Controller

220 Keyboard

230 Mouse

240 Interpreter

250 Display

260 Memory

270 System Bus

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to a comment of a document. It is related with the method and equipment which offer and use autonomous personal ABATA (AVATAR) especially appended to an electronic filing document.

[0002]

[Description of the Prior Art] Even if the electronic filing document has a hypertext function, it will often have been in the point of transmitting information briefly between the writer of a document, one person, or the reader beyond it. [to a field and the going communication] For example, in written form, one idea told in several minutes will become the detailed information of a huge page, if it is a field and the going communication. The present electronic filing document produces this from not offering the expression of the utterance and face which are used by human being, gesture, and various communication meanses of the comment given by the utterance. As assistance which removes the difference of the present electronic filing document and human being's power of expression, the character of a computer which expressed human being by 2-dimensional animation and which was compounded can be used. Such the character can be used by making the synthetic character assume the metaphor of the conversation between personal [human] as a user interface mechanism. The present synthetic character system is divided into two big categories. They are the "directions receptacle character" and the "autonomous agent character." User control and directions direct [the directions receptacle character] and continuous are received. A movie, work studio of television, etc. which generate motion capture of the character of various graphical chat rooms on the Internet and comics specially are included in this example. The autonomous agent character can operate and react under control of itself. That is, the autonomous agent character does not receive direct control of human being. Instead, the autonomous agent character is programmed beforehand to function as a user interface to a software system.

[0003] It is Microsoft to one of the systems using the autonomous agent character. There is Agent (see "Introduction to Microsoft Agent" and <http://www.microsoft.com/workshop/prog/agent>). Microsoft A series of specified operation is performed, a client program speaks about a text, and moves, and Agent becomes [whether it makes it possible to carry out an execution start and to control the animation character which receives / returning to the original size, and / an instruction, and], and offers a general-purpose agent server. JackPresenter offers the person of the three-dimensions animation which carried out human being's form correctly who introduces a specific material (see "A Virtual Human Presenter", Tsuhara Noma and Norman I.Badler, UCAI, and 1997). PPP Persona Project As a specific material The planning system which plans the individual presentation made within target presentation time is used (). ["The PPP Persona:a MultipurposeAnimated Presentation] Agent", Elizabeth Andre, Jochen Muller and Thomas Rist, Advance Visual Interfaces ACM Refer to Press and 1997. PPP It is only planning and performing a single presentation and a Persona system does not support the comment by the reader.

[0004] Another type of the synthetic character is an autonomous and personal surrogate (representative). One of the roles of an autonomous and personal surrogate (representative) is describing the summary of a document, or offering the guide about a document.

[0005] Active Task Although Project can write the script for the presentation of a document or a document set, the synthetic character is not used in an interface (see "Active Task Through Multimedia Documents", Polle T.Zellweger, Cambridge University Press, and 1988).

[0006]

[Problem(s) to be Solved by the Invention] A virtual agent cannot be personified although the above-mentioned system raises the quality of communication of an electronic filing document. Furthermore, a personal surrogate (representative) and the object in a document cannot be connected closely.

[0007]

[Means for Solving the Problem] Therefore, this invention offers the method and equipment which offer and use the autonomous and personal surrogate who can append to an electronic filing document (representative), i.e., ABATA. The 1st invention defines at least one object in the aforementioned electronic filing document in the method of appending ABATA to an electronic filing document, and relates at least one ABATA with the aforementioned object, and aforementioned ABATA is the appending method to the electronic filing document of ABATA with an ABATA definition and at least one ABATA behavior. the 2nd invention -- the 1st aforementioned invention -- setting -- the above -- even if few -- one ABATA -- the

above -- applying an AREF property to A tag in the HTML name attribute of one object, even if few -- the above -- it is the appending method to the electronic filing document of ABATA related with one object even if few The 3rd invention is the electronic-filing-document offer method of performing behavior by which the page with an electronic filing document was displayed, at least one of the aforementioned ABATA was started, and ABATA by which starting was carried out [aforementioned] was defined beforehand, in the method of offering the electronic filing document on which at least one ABATA expounded. The 4th invention is the electronic-filing-document offer method started by that aforementioned ABATA chooses the ABATA, dragging the ABATA on a certain object on a page, or choosing the aforementioned object in the 3rd aforementioned invention. When ABATA by which the 5th invention was started in the 4th aforementioned invention is related with other objects on a page, aforementioned ABATA performs the first behavior, when dragged on the object, and the first behavior of the above is the electronic-filing-document offer method containing at least one of the reproducing laughing and the message recorded beforehand. When ABATA by which the 6th invention was started in the 4th aforementioned invention is dragged on the object of the others on a page and aforementioned ABATA is not related with the aforementioned object, aforementioned ABATA performs the first behavior and the first behavior of the above is the electronic-filing-document offer method containing at least one of the reproducing frowning, taking an ambiguous attitude, and the message recorded beforehand. The object by which aforementioned ABATA was started by choosing the aforementioned object in the 4th aforementioned invention, and selection of the 7th invention was carried out [aforementioned] is the electronic-filing-document offer method which is a hypertext link. ABATA by which starting of the invention of the octavus was carried out [aforementioned] in the 7th aforementioned invention is the electronic-filing-document offer method related with the object by which selection was carried out [aforementioned] by applying an AREF property to A tag in the HTML name attribute of the object by which selection was carried out [aforementioned]. the 9th invention -- the 4th aforementioned invention -- setting -- further -- the inside of the margin of a page -- the above -- when one ABATA is arranged even if few, and the aforementioned object is chosen, ABATA by which starting was carried out [aforementioned] is the electronic-filing-document offer method which moves around the object by which selection was carried out [aforementioned] the 10th invention -- the 3rd aforementioned invention -- setting -- the above -- even if few, there is one ABATA in the margin of a page, one of the ABATA in the aforementioned margin is chosen, and ABATA by which selection was carried out [aforementioned] is the electronic-filing-document offer method of performing the second behavior The 11th invention is the electronic-filing-document offer method that the second behavior of the above is a greeting, in the 10th aforementioned invention. the 12th invention -- the 3rd aforementioned invention -- setting -- the above -- the time of one ABATA being arranged in the margin of a page, even if few -- the above -- it is the electronic-filing-document offer method that only the head of one ABATA is displayed even if few the 13th invention -- the 12th aforementioned invention -- setting -- the above -- even if few, when one started ABATA moves out of a margin, it is the electronic-filing-document offer method that the whole body of aforementioned ABATA is displayed the 14th invention -- the 13th aforementioned invention -- setting -- the above -- when it is around the object as which one started ABATA was chosen even if few, aforementioned ABATA is the electronic-filing-document offer method of performing behavior defined beforehand the 15th invention -- the 14th aforementioned invention -- setting -- the account of before -- the behavior defined beforehand is the electronic-filing-document offer method containing at least one of the reproducing changing the expression of a face, carrying out gesture, changing a pause, and voice record The 16th invention is the electronic-filing-document offer method which is a certain person's remark that the aforementioned voice record was recorded beforehand, in the 15th aforementioned invention. the 17th invention -- the 13th aforementioned invention -- setting -- the above -- even if few -- one started ABATA -- the account of before -- after ending the behavior defined beforehand, it is the electronic-filing-document offer method which returns to the margin of a page the 18th invention -- the 13th aforementioned invention -- setting -- the above -- even if few -- one started ABATA -- the account of before -- after ending the behavior defined beforehand, it is the electronic-filing-document offer method which will be in the state of carrying out nothing It includes that the behavior defined beforehand performs two or more primitives for guiding a reader in the aforementioned electronic filing document. the 19th invention -- the 3rd aforementioned invention -- setting -- the account of before -- two or more aforementioned primitives -- the above -- with the first primitive which moves one ABATA around one object on a page even if few It is the electronic-filing-document offer method which consists of the second primitive which makes the aforementioned object point at aforementioned ABATA, and the third primitive which starts at least one hypertext link related with aforementioned ABATA by the aforementioned object. The 20th invention is the electronic-filing-document offer method that two or more aforementioned primitive at least one is contained in an ABATA script file, in the 19th aforementioned invention. the 21st invention -- the 19th aforementioned invention -- setting -- further -- the above -- it is the electronic-filing-document offer method of generating a click according to starting of one hypertext link even if few the 22nd invention -- the 3rd aforementioned invention -- setting -- the account of before -- beforehand -- a law **** -- having had -- behavior is the electronic-filing-document offer method containing the time to an end of itself The 23rd invention is the electronic filing document on which it expounded. At least one page, It consists of at least one ABATA related with at least one object and the aforementioned object in the aforementioned page. When at least one aforementioned ABATA is started and the aforementioned object is chosen, it is the electronic filing document by which at least one ABATA behavior of ABATA by which starting was carried out [aforementioned] is performed and on which it expounded. the 24th invention -- the 23rd aforementioned invention -- setting -- the above -- it is the electronic filing document whose one object is a hypertext link even if few and on which it expounded the 25th invention -- the 23rd aforementioned invention -- setting -- the above -- even if few -- one ABATA -- the above -- it is the electronic filing document which is related with the aforementioned object and

on which it expounded by applying an AREF property to A tag in the HTML name attribute of one object, even if few In the 25th invention, the aforementioned ABATA description describes [the 26th invention] a certain person's appearance or feature including ABATA description and at least one ABATA behavior, and the aforementioned ABATA behavior is the electronic filing document including the sequence of at least one animation of the ABATA on which it expounded. In the electronic-filing-document display which displays the electronic filing document contained in a network, it connects with the network memory containing at least one ABATA in the aforementioned network, the 27th invention consists of a controller which takes out the picture of the aforementioned electronic filing document from the aforementioned network, at least one of the aforementioned ABATA contained in the aforementioned network memory is related with the aforementioned electronic filing document, and aforementioned ABATA is the electronic-filing-document display taken out in connection with drawing of the aforementioned electronic filing document. The 28th invention is electronic-filing-document display which is expression of the person of specification [aforementioned ABATA] in the 27th invention. The 29th invention is electronic-filing-document display with which aforementioned ABATA contains at least one behavior script in the 27th invention. ABATA with which the aforementioned electronic filing document was related for the 30th invention the account of before in the 27th invention including at least one object -- the above -- it is the electronic-filing-document display related with the aforementioned object by applying an AREF property to A tag in the HTML name attribute of one object, even if few The 31st invention is the document communication-of-information method of defining the information source, relating action of the lot reflecting the aforementioned individual's attribute with the aforementioned information source, and appending the aforementioned information source to the aforementioned document, in the method of transmitting the information about a document from a certain individual. The 32nd invention is the document communication-of-information method that the aforementioned document is a HTML document, in the 31st invention. It is the document communication-of-information method that the 33rd invention is appended to the aforementioned HTML document when the aforementioned information source applies an AREF property to A tag in the HTML name attribute of the aforementioned document in the 32nd invention. In the 31st invention, the 34th invention is the document communication-of-information method that the aforementioned information source is displayed and the group of at least one aforementioned action is performed, when the aforementioned document with at least one object is displayed further, one of the aforementioned objects is chosen and the object is chosen. The 35th invention is the document communication-of-information method which consists or more of one of the choosing that selection of an object drags the aforementioned information source on the aforementioned object, choosing the information source, and the aforementioned object in the 34th invention.

[0008] ABATA is connected to a document using the mechanism in which description by ABATA is specified with ABATA and the reference about the definition of behavior, to all the objects (a word, a sentence, paragraph, etc.) of the page in the document with which it commented. ABATA is displayed on the margin portion of a document until it starts an interaction with ABATA that a reader chooses ABATA and drags on a document at first, or by choosing a document portion with one or more related ABATA.

[0009] ABATA changes behavior based on the context of a reader's act and ABATA in a document. For example, if ABATA is dragged on the object to which the comment on a document was given, ABATA will laugh and will raise eyebrows. Each element (for example, description or detailed explanation about a portion with a document) which constitutes the behavior of ABATA contains the animation and voice which synchronized. ABATA can act on the document itself and mutual by choosing the hypertext link for example, in a document page again. Thereby, ABATA can offer the guide about the presentation individually made to the document, i.e., a document. the multi offered by ABATA -- it will be modal, namely, the presentation capacity using a text, voice, and an animation will have many strengthening points including the increase in the amount of information accumulated in a document by starting ABATA and showing information further Thus, ABATA of this invention can offer the presentation made from the special order according to each reader's needs. This makes the ABATA system more flexible than the fixed multimedia presentation of a video clip or others. Furthermore, by ABATA, an ABATA system can offer the hypertext link in the document which was able to be located in a line with the meaningful position, and can present the plan of information navigation. Moreover, a reader does not need to leave the page seen now, in order to see the further information. A reader can receive offer of the information on visual and more [in acoustic sense] many by ABATA, continuing looking at the present page. When the generation person of ABATA is also a writer of a document, available information can be added by giving a context to the structure of a document.

[0010] Two or more ABATA expounds on each object in a document, and it deals in it. Two or more ABATA can express different people about a material, and a different abstract concept. For example, in joint work, a different writer may have a different abstract concept as each viewpoint. ABATA is used again, when giving for example, a technical viewpoint pair management-viewpoint or English expression pair Japanese expression. Such capacity can increase the opportunity which can do calligraphy of a more ordinary document, the material by which the presentation is carried out can be introduced, and the viewpoint of the talk specified more nearly individually can be shown.

[0011] Avatar An ABATA maker can only trace for example, a digital photograph, and can constitute ABATA reflecting the appearance of a maker's body from Studio quickly. Thus, ABATA can express the ABATA maker's appearance and property to the others using the voice on which a certain specific ABATA maker was recorded, appearance, a physical peculiarity, character, etc.

[0012] It is clear from the detailed explanation of these modes of implementation of invention which reaches and indicates

other features and advantages below about this invention.

[0013]

[The mode of implementation of invention] When it is impossible to perform actual physical expression or there is un-arranging, with a personification interface, a certain individual can use human being's field and the metaphor of the going communication, and can offer information to the second individual through a personal surrogate (representative). if suitable feeling is inputted -- a personal surrogate (representative) -- multi with a user -- it is modal, namely, the discourse using utterance, the text, and the animation is performed and it brings close to the field between individuals, and the going conversation This includes recognition of traditional language expression, use, and an understanding and integration of natural language rather than it is brought by gesture, the expression of a face, a bodily pause, and utterance again.

[0014] In order to bring about an effect, the personal surrogate (representative) should be autonomous. That is, a personal surrogate (representative) can operate independently of the individual whom it is expressing, and has to be able to tell information in complicated and dynamic environment. The range of the behavior which a personal surrogate (representative) should have includes offering the information about the individual whom it is expressing, telling an opinion and individual liking of the individual with voice, explaining the expertise which the individual has and applying to a specific field, the individual's thing for which the message to the individual is told, and making a promise by changing to the individual.

[0015] I hear that the physical appearance and peculiarity of the second factor which confirms a personal surrogate (representative) are very close to individual them which are being expressed, and it has them. That is, depiction of a surrogate's (representative) personal face should be performed so that it may be in agreement with the individual face which it is expressing as much as possible. Furthermore, an individual's own character should be reflected in the personal surrogate (representative) by expressing the thing possible near the range of expressional shown in case the individual actually goes with a field, for example and it communicates.

[0016] The criteria of this last are considerably fulfilled by usually including a field and standard expression which accompanies the going communication in a personal surrogate (representative). For example, a personal surrogate (representative) can include expression of a suspicious expression of raising eyebrows, and the dissatisfied leg which frowns. Thus, it is used by the personal surrogate (representative) in order that the combination of the script accompanying the expression of a face, bodily movement, and them may tell a meaning almost like a field and the case in the going communication.

[0017] Drawing 1 is drawing showing the personal surrogate (representative) system 100 by the mode, i.e., the ABATA system, of operation of this invention. A writer 110 draws up a document 112 and stores it in the electronic format on a network 120. If multimedia communication can be supported, what thing is sufficient as a network 120, for example, it contains the Internet. Moreover, a network 120 should just be a central network which can offer a band required for the multimedia communication between the users of a Local Area Network, Ethernet or a network, and a network. The ABATA maker 130 creates ABATA 132, and since a comment is attached to a document 112, he uses it. A reader 140 reads a document 112, interacts with ABATA 132, and acquires the additional information about a document 112 of the opinion of the ABATA maker 130 about technical worth of a document 112.

[0018] When a network 120 is the Internet, the ABATA maker 130 has to acquire the authority (light authority) of the writing for appending ABATA 132 to a document 112 first. Appending of ABATA 132, i.e., creation of a hypertext link, is because a document 112 will be corrected. A writer 110 can grant this authority by preparing a "comment" page or making the copy of a document. Moreover, the ABATA maker 130 can send an E-mail to a writer 110, and can specify the place where a hypertext link is inserted.

[0019] In an old argument, although the ABATA maker 130 was distinguished from the writer 110, a writer 110 may also turn into an ABATA maker. That is, a writer 110 can create second ABATA 114 and can attach a comment to a document 112 using it.

[0020] In the argument after this, since a writer 110 or the ABATA maker 130 attaches a comment to an electronic filing document 112 based on the ABATA maker's individual judgment, ABATA 114 or 132 is used. A typical electronic filing document is a web page. Although the HTML document of a web page or others is fit for appending of ABATA, ABATA of this invention can be appended to all the electronic filing documents containing what was created by the word-processing program.

[0021] Drawing 2 shows ABATA 152 created by the mode of this operation. ABATA 152 is described by the window 150 on a display of a computer drive like a CRT monitor as illustrated. ABATA 152 shown in drawing 2 includes depiction of an ABATA maker's head. ABATA 152 resembles the maker's actual appearance very much again.

[0022] ABATA is divided into two portions and created. It is the appearance and ABATA behavior of ABATA. An ABATA creation process is described below. As an example, ABATA is JAVA(trademark) run-time. animation It is constituted using the program developed for the interface of engine. Two tools first used in order to define ABATA are Avatar which is the program which defines the appearance of ABATA, and the range of movement. It is the ABATA description language (Avatar Scripting Language, ASL) which defines the behavior of Studio and ABATA. Here, 2-dimensional ABATA is described.

[0023] Avatar ABATA constituted using Studio has the control point of the lot which moves on the line orbit corresponding to the position of ABATA over a certain time. ABATA is moved by moving a control point so that it may state below. The polygon by which the lot was hierarchized constitutes the appearance of ABATA. It can be fixed to one control point to which it is fixed to the reference frame of ABATA, or (quiescence) operation corresponding to the reference frame of ABATA is

carried out, or (point polygon) those polygons can be fixed to two or more control points (polygons, such as fixtures of a face). Polygons, such as fixtures of a face, will change a configuration, if one or the control point beyond it related with it moves. Moreover, a polygon can be cut off and can be stuck on the interior of other polygons (clip). That is, the polygon of a tongue can be clipped inside the polygon of the mouth of ABATA.

[0024] The pause of ABATA is defined as a position of the control point beyond one or it corresponding to the reference frame of ABATA. An animation is realized in run time by ordering clearly to move to the position where it ordered in that ABATA made a pose within time deltat, or the control point was specified within time deltat. Perfect ABATA contains a head wireframe and a reel cord frame. A head wireframe and a reel cord frame have the control point, polygon, and pause of itself, respectively. Thereby, a head can be moved as a unit which became independent of the body section.

[0025] Drawing 3 shows the ABATA processor 200 by the mode of 1 operation of this invention. A controller 210 controls processing of the input from the ABATA maker who is going to constitute ABATA. A controller 210 receives the input from an ABATA maker through a keyboard 220 or an operator interface like a mouse 230. An interpreter 240 performs interpreting to a computer code required in order to create and display ABATA from the JAVA code. the specification of ABATA is written in the text file of ASCII using the property format of JAVA -- having -- Avatar for edit behind a Studio session -- or it is loaded to the JAVA applet for animation application On a display 250, an operator can check constituted ABATA. A display 250 displays the option of the command which an ABATA maker can choose using a keyboard 220 or a mouse 230 again.

[0026] Generally memory 260 contains the RAM (RAM) which accumulates information provisionally, the operation module which makes a controller 210 control a fundamental hardware function (for example, interpretation of a stroke of a keyboard), the hardware driver / system file, and a part of operating system. Moreover, generally memory 260 contains the read only memory (ROM) which accumulates eternally a fundamental operation rating command like the composition of a computer, or the additional portion of an operating system. Furthermore, memory 260 contains at least one accumulation equipment which accumulates the permanent file of the information containing ABATA created using the operation system module or the controller 210, for example, a hard disk drive, a CD-ROM drive and the CD-ROM disk, the floppy drive and the diskette, the flash memory, etc. All the components of the ABATA processor 200 are connected by the bidirectional system bus 270.

[0027] Drawing 4 is Avatar displayed on the display 250 shown by drawing 3. The main application display 300 of Studio is shown. The display area 310 shows ABATA 400 under composition. The wireframe body 420 shown all over the display area 310 and the wireframe head 410 contain the control point of ABATA 400 which is going to be created. In case a control panel 320 constitutes ABATA 400, it includes the control item used frequently. A control item is accessed with a keyboard 220 or a mouse 230. A menu bar 330 contains the menu item for creating new ABATA, for example, opening ABATA saved before, or saving the newest ABATA to non-volatile memory. A display 300 shifts the candidate for a display right and left, or carries out enlarging or contracting, changes the field of ABATA and enables fine work. Since ABATA 400 is constituted, an ABATA maker can use a free hand sketch. And a grid is drawn on a wireframe 410 and 420 as a guide of drawing. The position of the last mouse click is continuously displayed on the lower part of a control panel, and is assistance [calculation / for exact arrangement of the control point used as the peak of a polygon]. To the last, it is Graphics. Interchange The picture of Format (GIF) is loaded, and it is made semipermeability, and is put on the display area 310. Or Joint Photographic Experts The picture of Group (JPEG) is put on the display area 310. Thus, an ABATA maker can place a digital image on the wireframe 410 of the display area 310, and 420 using the digital image of GIF or JPEG, and can make ABATA 400 only from tracing the digital image.

[0028] As stated above, the control point of a lot is under ABATA 400, and operates the animation of ABATA. Drawing 5 shows the wireframes 410 and 420 of ABATA to which the control point was expressed with the dot. The position of a control point is specified corresponding to the starting point 422 located at the center of the neck of ABATA 400. For example, some of control points do not stand still and move like the control point 432 of a shoulder. Other control points are divided into a control point group like an arm 430 or the leg 440.

[0029] Drawing 6 shows the example of the control point group of ABATA. Eyebrows are formed by one or the feature polygon beyond it, and are connected with drawing 6 to a right eyebrow / **** control set 412, respectively. The aperture portion of an eye is formed by one or the feature polygon beyond it, and is connected to a right eye / left eye control set 414, respectively. A pupil is formed by one or the point polygon beyond it, and is connected to **** / **** control set 415, respectively. The aperture portion of a mouth is formed by one or the feature polygon beyond it, and is connected to the mouth control set 416. An arm is formed by one or the feature polygon beyond it, and is connected to a right arm / left arm control set 430, respectively. A hand is formed by one or the feature polygon beyond it, and is connected to a right hand / left-hand control set 434, respectively. The leg is formed by one or the feature polygon beyond it, and is connected to a right crus of diaphragm / **** control set 440. Finally, a leg is formed by one or the point polygon beyond it, and is connected to a right leg / left leg control set 442, respectively.

[0030] Drawing 7 shows the process of edit of a control point. In drawing 7, the wireframe picture 410 of the face of ABATA 400 containing **** / **** control point 415, the right eyebrow / **** control point 412, and the mouth control point 416 is shown. When editing one of the control points of the wireframe picture 410 and the control point is chosen using a keyboard 220 or a mouse 230, the control point is highlighted. The range by which a motion range icon like a box 450 is displayed, and the selected control point can move is shown. The selected control point can be moved to any positions in a box 450. For example, if the **** control point 415 is chosen and it moves, **** will change a configuration according to it in the associated element and this case. Although it seems to the range of the movement of the **** control point 415 that it is

restricted by the box 450, the size of a box 450 can be changed, therefore can also change the range of the horizontal direction of the movement of ****, or a perpendicular direction.

[0031] As stated above, the polygon is connected to wireframes 410 and 420, and "fleshes out" out ABATA 400. As can edit a control point, the polygon which forms ABATA 400 can be edited. A polygon can be deleted, can be moved or can change the peak. Furthermore, other properties whether the polygon is smeared away or a polygon [what color and] clips a polygon can be edited.

[0032] The pause of ABATA is defined by the specification of a position to one or the control point beyond it. An animation is realized in run time by ordering within a time [which was specified] for ABATA to make one or a pose beyond it. New ABATA 400 has the early defined pause set. These pauses can be corrected and can also add a new pause. When seeing a pause, an ABATA maker chooses a pause from a pause menu. ** [selection of a pause / perform / the pause between the numbers of steps of the specified time / ABATA 400]

[0033] ASL is a high-level description language which describes the behavior of ABATA, and includes the instruction which performs the animation of ABATA. By using ASL, an ABATA maker can create the script appended to an electronic filing document. Starting of the text and picture support of the request in a document performs a script. In the mode of a certain operation, an ASL file is an ASCII text file. An ASL file may not have an ABATA statement with a script definition including one ABATA statement. A script definition defines the nominated behavior and contains the sub behavior and the basic command of a lot. The basic command has the start time and the explicit duration, or the stopping time clearly described about the start of a script. There is a basic command in order to perform a pause [finishing / a definition], to move, to carry out enlarging or contracting or to perform an audio file of finishing / recording /. Therefore, "it can speak" about ABATA using voice [finishing / an ABATA maker's recording], the expression of a face can be made, gesture can be carried out, and a pose can be made. All these acts are simultaneously performed, in order to explain a certain object.

[0034] Drawing 8 shows the logical expression of the ABATA ASL file 500. The ABATA statement 510 specifies the symbol name of ABATA, i.e., an identifier. After a symbol name, the path name to an ABATA definition file continues. The ABATA script file 520 contains the ABATA scripts 521-52m. The ABATA scripts 521 and 522 contain a specific command like "pose:fpase.right arm up" and "pose:fpase.right arm down."

[0035] Drawing 9 is the example of the ASL file 500 for ABATA "Tim". It is directed that this file shakes a right arm at ABATA "Tim", and calls it "hello". The ABATA statement 510 identifies ABATA "Tim" and specifies path name "tim.avt" as an ABATA definition file of ABATA "Tim". The ASL file 500 contains the script file 520 with the single script 521. When the single script 521 is named "hello" and performed, it makes the right arm of ABATA "Tim" improved, it makes it call it hello, and makes a right arm take down. Script "hello"521 includes the sequence of a command required in order to perform these operation, and time. The ASL file also contains the "endscript" command which it is called [command] in the "hello" script 521 and terminates operation again. If the "hello" script 521 is performed as shown in drawing 9, ABATA "Tim" will perform operation which is started by the script time 1 and "which improves a right arm" between 5 time intervals. Voice "hello" is performed until it is finished by beginning a time 1. A command "a right arm is lowered" is started by the script time 20, and 5 time interval is back-ended.

[0036] Many script primitives are used in a script definition. Primitive "RUNSCRIPT<identifier>" performs a main script. If duration is specified, it will carry out whether a script is ended on the way if needed or it is repeated, and during the time specified correctly will be performed. By meeting, if there is nothing, a script play will continue until all script definitions are performed. Primitive "POSE<identifier>" makes ABATA take a specific pause. The pause is defined as the definition file of ABATA. Specification of duration continues the movement over the interval of the specified time. Otherwise, movement will become momentary. Primitive "CONTROL<identifier><integer> <integer>" is the specific coordinate x of the reference frame of ABATA about a specific ABATA control point. It is made to move to y. Specification of duration continues the movement over the interval of the specified time. Otherwise, movement will become momentary.

[0037] Primitive "HEAD<real><real>" moves the head of ABATA corresponding to the body section. The first <real> argument is made to bow one's head in assent by controlling the rotation about a horizontal axis. The second <real> argument makes it rotate by controlling the rotation about a normal axis. Specification of duration continues the movement over the interval of the specified time. Otherwise, movement will become momentary. a primitive -- "MOVE<real> <real>" -- ABATA on a page -- 0. -- 0 and 0.0 -- the upper left corner of a display -- expressing -- 1. -- it is made to move to the coordinate 0 and 1.0 were specified to be in the normalization coordinate system showing the lower right corner of a display Specification of duration continues the movement over the interval of the specified time. Otherwise, movement will become momentary.

[0038] Primitive "SCALE<real><real>" changes the size of ABATA in x and y dimensions. value 1. -- 0 and 1.0 -- ABATA -- as much as possible -- large -- carrying out -- value 0. -- 0 and 0.0 make ABATA the size of a pixel Specification of duration continues the present expansion and present reduction from a size of ABATA over the interval of the specified time. Otherwise, movement will become momentary.

[0039] Primitive "AUDIO<identifier>" performs the specified audio file. There must be a file in the same directory as the ASL file of ABATA. Duration is disregarded. a primitive -- "<variable>=RANDOM<integer> <integer>" gives a random number to a variable The random number contains two specified numbers and the number of in the meantime. Duration is disregarded. Primitive "SELECT<identifier>" chooses an identifier at random and performs the script related with the identifier.

[0040] Other three primitives can make ABATA able to simulate the mouse click on a document object, therefore ABATA can be guided in a series of objects connected by the hypertext link. Refer to the object as which it was nominated on the document for all of these primitives. For example, the name referred to is defined by HTML in the standard name property

(standard nameproperty) of "A tag." Primitive "MOVE_TOWARDS object" moves ABATA around the object on a page so that one hand may reach an object, while performing a predetermined pause. a primitive -- "POINT_TOWARDS object" should make it perform one of predetermined pauses to ABATA -- or [that it is on the object the hand of ABATA was specified to be when a pause finished] -- or the specified object is pointed out Finally, primitive "CLICK object" performs the same movement as clicking with a mouse the object the reader of a document was specified to be. Execution of a "CLICK object" primitive generates a click.

[0041] In addition to the script defined by the ABATA maker, a certain kind of script is called according to a reader's finishing / a definition] action. For example, script "INTRO" will be started if it is in the state which can be started when a reader chooses ABATA currently clicked with the mouse for the first time. According to it, ABATA says an easy greeting, for example, "hi". If it is in the state which can be started when a reader drags ABATA on a document from a dock, script "SELECTED" will be started, and ABATA makes a pose as shows interest. Script "DRAG_HANDLE" will be started if a reader drags ABATA into a document portion including an ABATA link. Script "DRAG_NOHANDLE" will be started if a reader drags ABATA into the document portion which does not include an ABATA link.

[0042] It is clear that ABATA is started while the link from the above-mentioned outline to ABATA is carrying out activation. In HTML, the link to the specific position in a document or the link between the positions in the same document becomes possible according to the NAME attribute of "A" support element. "A" support element marks 1 block of a document as a hypertext link. A text, the highlighted text, or a picture is sufficient as a block. "A" support element can have some attributes. At least one attribute must be "HREF" or "NAME". "HREF" specifies the link place of a hypertext link and it is shown that "NAME" is the link place of a hypertext link of the marked text itself. When there are both attributes, support is the beginning of one link and is in the end of other links. An ABATA maker can give the original name called partial identifier to the specific place in a document according to a NAME attribute. An ABATA maker can do linking of the position with this characteristic name using a special form of URL including the name. A link can also be made in the same document and can also be made from other documents.

[0043] The ABATA system uses this feature of HTML. Once it is created, an ABATA ASL script file and an ABATA definition file are linked to an electronic filing document, in order to add for example more detailed explanation, to express an opinion or to guide a reader in an electronic filing document. An ABATA script file and an ABATA definition file are used in relation to a hypertext rendering system like the HTML web browser which supports the comment to the object on the page of an electronic filing document. An object includes a word, a sentence, a paragraph, and drawing. An ABATA link is highlighted by the color different from the color which highlights the usual hypertext link. For example, if the usual hypertext link is displayed in blue, an ABATA link will be displayed in red. ABATA is appended to an electronic filing document by specifying the special ABATA reference property related with the page object.

[0044] In HTML, this is made by adding a "AREF" attribute to the "A" tag of HTML. AREF specifies an ABATA description file and a script file. For example, the tag surrounding a certain paragraph in a HTML page [several 1] ` ...` the behavior of ABATA as which `` was defined by "tim.asl" -- it specifies that "ok1" is related with the paragraph Since the comment or explanation about the object on which it expounded is associated, this mechanism is used by the person expressed by specified ABATA.

[0045] If a document is seen as shown in drawing 10 , all ABATA related with the page opened now will be loaded, and it will be displayed where "a dock is carried out" to the margin of a document. Drawing 10 is the example of the HTML page 600 containing ABATA 132 by which the dock was carried out to the left margin 610 of a page. In drawing 10 , the dock of ABATA 132 is carried out and only the head 410 is displayed. Thereby, two or more ABATA can be displayed on a page 600.

[0046] Drawing 11 is the example of ABATA 132 which performs specified behavior of it being appended to a HTML document 600 like a document 112, and pointing out an object. Here, an object is the portion 622 of the text 620 of a page 600. In drawing 11 , since the reader called ABATA 132 by whether ABATA 132 is dragged on a portion 622, or a portion 622 is chosen with a keyboard 220 or a mouse 230, ABATA 132 is performing specified behavior.

[0047] It returns to drawing 1 , and a reader 140 can access a network 120 and can criticize a document 112. If ABATA 132 is appended to the document 112, ABATA 132 will be displayed to a reader 140. Drawing 12 is the example of composition of a system 700. A reader 140 criticizes a document 112 using a system 700, and does ABATA 132 and the interaction which were appended. In drawing 12 , a controller 710 accesses a network 120 through the network interfaces 780, such as a modem. Memory 760 contains RAM for accumulating information provisionally, the hardware driver / system file by which a controller 710 enables it to control the fundamental hardware function to interpret the stroke from a keyboard 220, and the portion of an operating system. Memory 760 contains the Video RAM for accumulating ROM for accumulating everlastingly the fundamental operation command like the composition of a computer, and the additional portion of an operating system, and an image file again. Furthermore, memory has at least one accumulation equipment with the lasting information file containing an operation system module.

[0048] Especially the memory 760 is the JAVA class of a lot, and also contains the animation engine of ABATA which may be easily integrated by the JAVA application of an applet or a stand-alone. The first class with which application needs to interface encapsulates run time environment required for ABATA animation. If a controller 710 accesses a document 112 from a network 120, a page with a document 112 will be accumulated at the Video RAM of memory 760, and will be displayed on a display 250. If it is corrected so that a document 112 may include an ABATA link, the displayed page will be made into the color different from the usual hypertext link, will distinguish an ABATA link, and will display ABATA 132 by

which the dock was carried out to the margin of a page. A controller 710 receives a command from the document reader 140 through a keyboard 220 or a mouse 230. All the components of this equipment are connected through a bi-directional bus 770.

[0049] In operation, the context by new ABATA is created and all the ABATA definition files and script files that are needed are loaded. If a reader 140 clicks on an ABATA link, the pair of the first behavior-ABATA associated by the link will be performed. If required, before moving ABATA 132 to the near position of the object on which it expounded from the position by which the dock was carried out and starting execution -- the head 410 of ABATA -- and probably the body section 420 of ABATA is drawn. If a reader 140 clicks on ABATA 132 by which the dock was carried out, ABATA 132 will perform INTRO behavior, for example, introduction, or a greeting. If a reader 140 drags ABATA 132 on a document 112 from a margin, ABATA 132 will perform manifestation of the selected behavior, for example, interest, (supposing it defines). If ABATA 132 drags on the document object in which the reader 140 has behavior [finishing / ABATA / 132 / a definition / to it], ABATA 132 will perform DRAG_HANDLE behavior. The behavior serves as "glad" manifestation. If ABATA 132 drags on the document portion in which the document reader 140 does not have behavior [finishing / ABATA / 132 / a definition / to it], ABATA 132 will perform DRAG_NOHANDLE behavior (supposing it defines). The behavior serves as manifestation of "it is sad" and "not clarifying." Furthermore, if ABATA 132 drags on the document object in which the document reader 140 has behavior [finishing / ABATA / 132 / a definition / to it] and drops ABATA 132 on the object, ABATA 132 will perform associated behavior. The behavior which shows that the document rendering engine has made nothing ABATA 132 periodically will be made to perform, if it is left behind on the document 112 after ABATA 132 ends behavior (if such behavior is defined).

[0050] Drawing 13 shows another ABATA 132d located on two or more ABATA 132a-132c by which the dock was carried out to the margin 612, and the text 620 of the HTML page 600. The HTML page 600 includes the link 624 to which the behavior which was made to start more than one or it of two or more ABATA 132a-132c, and was specified can be made to perform. If related with the specified link with two or more ABATA, the first ABATA specified in AREF will move to a link, a head 410 will be expressed, and behavior which the body section 420 was probably described and was specified will be performed. A reader 140 can return the first ABATA to a margin, before the second ABATA moves to a link and performs specified behavior.

[0051] Drawing 14 is a flow chart which sketches the desirable method for constituting ABATA 132. Starting to Step S100, a control routine continues to Step S200. In Step S200, the mainframe of ABATA composition is displayed to the ABATA maker 130. In Step S300, a default wireframe without a polygon is displayed on a mainframe, and a certain ABATA is deleted from a mainframe now. Next, in Step S400, the GIF file containing the ABATA maker's 130 digital image is displayed on a mainframe. Control continues to Step S500.

[0052] In Step S500, the ABATA maker 130 traces the outline of a GIF file, and creates ABATA 132. Then, in Step S600, ABATA 132 is saved to the permanent memory of an ABATA file. A control routine makes an ABATA composition process finish in Step S700, it continues to Step S800, and a control routine is ended there. The ABATA file created in the ABATA composition process of having described the outline above includes the default property, the control point, and behavior of a polygon. However, ABATA 132 can be modified by giving the behavior which specified the polygon and was specified to be the movement which changed the control point, moved the control point, reached drawing 5 -11, and was described above in relation to 13.

[0053] Drawing 15 is the flow chart which sketched the desirable method for loading the document on which ABATA expounded. Starting to Step S900, a control routine continues to Step S910. In Step S910, an electronic filing document downloads from a network 120 to a system 700 using a network browser or a rendering engine. In Step S920, it is determined whether the system 700 contains new ABATA the document is not indicated to be until now. If the document does not contain new ABATA, a control routine is jumped to Step S970. If the document contains new ABATA, a control routine will continue to Step S930.

[0054] In Step S930, a system 700 loads the ASL file for new ABATA from a network 120. In Step S940, a system 700 loads an ABATA definition file from a network 120. Next, in Step S950, a system 700 loads the audio file related with ABATA and the document. In Step S960, a system 700 creates the data structure for expressing ABATA, and initializes ABATA. A control routine returns to Step S920.

[0055] In Step S970, a system 700 displays a document on the display of a system 700, and displays ABATA in Step S980. The result becomes being the same as that of the document shown in drawing 10. The control routine for loading the document on which ABATA expounded continues to Step S990, and a process is ended there.

[0056] As for the ABATA processor 200 or a system 700, realizing on the programmed general purpose computer is desirable as shown in drawing 3 and 12. However, the ABATA processor 200 and a system 700 are a dedicated purpose computer, the programmed microprocessor or a microcontroller, a circumference integrated circuit, ASIC or other integrated circuits, a digital signal processor, an electronic wire circuit like a digital circuit or a logic wire circuit, and PLD again. PLA It is realizable also on a programmable logic device like FPGA, and PAL and others etc. Generally, if it is the movement which reached and was sketched above in relation to 13, and equipment which can realize the finite state machine which can realize behavior drawing 5 -11, it can be used in order to realize the ABATA processor 200 and a system 700 anything with the flow chart shown in drawing 14 and 15.

[0057] As shown in drawing 3 and 12, as for the RAM portion of memory 260 and 760, static or realizing using a dynamic RAM are desirable. However, a RAM portion can also be realized using a floppy disk and a disk drive, the optical disk that

can be written in and a disk drive, a hard disk drive, and a flash memory and others. Similarly, as for the ROM portion of memory 260 and 760, realizing using ROM is desirable. However, a ROM portion can also be realized using PROM, EPROM or CD-ROM, and a disk drive and others. Furthermore, a wire drink or a wireless link is sufficient as the network interface 780 which connects a network 120 to a controller 710. A network 120 is good anything, if it is the network where a Local Area Network, a Wide Area Network, intranet, the Internet, other distributed processing, and storage are connected. [0058] Moreover, the ABATA processor 200 and a system 700 can be used as the same system, a different control routine can be performed, and the function in which ABATA creation differs from reading can be given.

[0059] Although this invention has been described along with the mode of the above-mentioned specific implementation, it is clear that this contractor can understand many alternative plans, correction, and deformation immediately. Therefore, the mode of desirable operation of this invention described above does not aim at limitation, and aims at explanation. It is possible to make it change variously, without deviating from the meaning and the range of invention which are defined in a claim.

[0060]

[Effect of the Invention] Using the computer character with movement, i.e., ABATA, since according to this invention ABATA is related with the object defined in the electronic filing document and ABATA behavior was defined as this ABATA as explained above, it is self-supporting and communication between two users about a certain document can be promoted.

[Translation done.]

* NOTICES *

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] It is the appending method to the electronic filing document of ABATA which defines at least one object in the aforementioned electronic filing document, relates at least one ABATA with the aforementioned object in the method of appending ABATA to an electronic filing document, and is characterized by aforementioned ABATA having an ABATA definition and at least one ABATA behavior.

[Claim 2] the appending method to the electronic filing document of ABATA according to claim 1 -- setting -- the above -- even if few -- one ABATA -- the above -- applying an AREF property to A tag in the HTML name attribute of one object, even if few -- the above -- the appending method to the electronic filing document of ABATA characterized by being related with one object even if few

[Claim 3] The electronic-filing-document offer method characterized by performing behavior by which the page with an electronic filing document was displayed in the method of offering the electronic filing document on which at least one ABATA expounded, at least one of the aforementioned ABATA was started, and ABATA by which starting was carried out [aforementioned] was defined beforehand.

[Claim 4] It is the electronic-filing-document offer method characterized by that aforementioned ABATA chooses the ABATA in the electronic-filing-document offer method according to claim 3, to drag the ABATA on a certain object on a page, and either of choosing the aforementioned object starting.

[Claim 5] It is the electronic-filing-document offer method which aforementioned ABATA performs the first behavior when dragged on the object, and is characterized by the first behavior of the above containing at least one of the reproducing laughing and the message recorded beforehand when started ABATA is related with other objects on a page in the electronic-filing-document offer method according to claim 4.

[Claim 6] The electronic-filing-document offer method according to claim 4 characterized by providing the following. It is ** at which aforementioned ABATA performs the first behavior and the first behavior of the above frowns when started ABATA is dragged on the object of the others on a page and aforementioned ABATA is not related with the aforementioned object. At least one of the reproducing taking an ambiguous attitude and the message recorded beforehand

[Claim 7] The object by which aforementioned ABATA was started by choosing the aforementioned object in the electronic-filing-document offer method according to claim 4, and selection was carried out [aforementioned] is the electronic-filing-document offer method characterized by being a hypertext link.

[Claim 8] ABATA by which starting was carried out [aforementioned] in the electronic-filing-document offer method according to claim 7 is the electronic-filing-document offer method characterized by being related with the object by which selection was carried out [aforementioned] by applying an AREF property to A tag in the HTML name attribute of the object by which selection was carried out [aforementioned].

[Claim 9] the electronic-filing-document offer method according to claim 4 -- setting -- further -- the inside of the margin of a page -- the above -- the electronic-filing-document offer method characterized by ABATA by which starting was carried out [aforementioned] moving around the object by which selection was carried out [aforementioned] when it is characterized by arranging one ABATA even if few and the aforementioned object is chosen

[Claim 10] the electronic-filing-document offer method according to claim 3 -- setting -- the above -- the electronic-filing-document offer method characterized by for there being one ABATA in the margin of a page even if few, and choosing one of the ABATA in the aforementioned margin, and ABATA by which selection was carried out [aforementioned] performing the second behavior

[Claim 11] The electronic-filing-document offer method characterized by the second behavior of the above being a greeting in the electronic-filing-document offer method according to claim 10.

[Claim 12] the electronic-filing-document offer method according to claim 3 -- setting -- the above -- the time of one ABATA being arranged in the margin of a page, even if few -- the above -- the electronic-filing-document offer method characterized by displaying only the head of one ABATA even if few

[Claim 13] the electronic-filing-document offer method according to claim 12 -- setting -- the above -- the electronic-filing-document offer method characterized by displaying the whole body of aforementioned ABATA when one started ABATA moves out of a margin, even if few

[Claim 14] the electronic-filing-document offer method according to claim 13 -- setting -- the above -- the electronic-filing-document offer method characterized by aforementioned ABATA performing behavior defined beforehand

when it is around the object as which one started ABATA was chosen even if few

[Claim 15] the electronic-filing-document offer method according to claim 14 -- setting -- the account of before -- the electronic-filing-document offer method characterized by including at least one of the behavior defined beforehand reproducing changing the expression of a face, carrying out gesture, changing a pause, and voice record

[Claim 16] It is the electronic-filing-document offer method characterized by being the remark of a certain person by whom the aforementioned voice record was beforehand recorded in the electronic-filing-document offer method according to claim 15.

[Claim 17] the electronic-filing-document offer method according to claim 13 -- setting -- the above -- even if few -- one started ABATA -- the account of before -- the electronic-filing-document offer method characterized by returning to the margin of a page after ending the behavior defined beforehand

[Claim 18] the electronic-filing-document offer method according to claim 13 -- setting -- the above -- even if few -- one started ABATA -- the account of before -- the electronic-filing-document offer method changed into the state of carrying out nothing by the bird clapper after ending the behavior defined beforehand

[Claim 19] It includes that the behavior defined beforehand performs two or more primitives for guiding a reader in the aforementioned electronic filing document. the electronic-filing-document offer method according to claim 3 -- setting -- the account of before -- two or more aforementioned primitives -- the above -- with the first primitive which moves one ABATA around one object on a page even if few The electronic-filing-document offer method characterized by the second primitive which makes the aforementioned object point at aforementioned ABATA, and the third primitive shell bird clapper which starts at least one hypertext link related with aforementioned ABATA by the aforementioned object.

[Claim 20] It is the electronic-filing-document offer method characterized by containing two or more aforementioned primitive at least one in an ABATA script file in the electronic-filing-document offer method according to claim 19.

[Claim 21] the electronic-filing-document offer method according to claim 19 -- setting -- further -- the above -- the electronic-filing-document offer method characterized by generating a click according to starting of one hypertext link even if few

[Claim 22] the electronic-filing-document offer method according to claim 3 -- setting -- the account of before -- the electronic-filing-document offer method characterized by the behavior defined beforehand containing the time to an end of itself

[Claim 23] It is the electronic filing document on which it expounded. At least one page and at least one object in the aforementioned page, It is characterized by the bird clapper from at least one ABATA related with the aforementioned object. The electronic filing document which is characterized by performing at least one ABATA behavior of ABATA by which starting was carried out [aforementioned] when at least one aforementioned ABATA was started and the aforementioned object was chosen and on which it expounded.

[Claim 24] the electronic filing document according to claim 23 on which it expounded -- it is -- the above -- the electronic filing document which is characterized by one object being a hypertext link even if few and on which it expounded

[Claim 25] the electronic filing document according to claim 23 on which it expounded -- it is -- the above -- even if few -- one ABATA -- the above -- the electronic filing document which is characterized by being related with the aforementioned object by applying an AREF property to A tag in the HTML name attribute of one object even if few and on which it expounded

[Claim 26] It is the electronic filing document which it is the electronic filing document according to claim 25 on which it expounded, and the aforementioned ABATA description describes a certain person's appearance or feature including ABATA description and at least one ABATA behavior in aforementioned ABATA, and is characterized by the aforementioned ABATA behavior including the sequence of at least one animation of the ABATA and on which it expounded.

[Claim 27] It is the electronic-filing-document display which it is connected with the network memory which is the electronic-filing-document display which displays the electronic filing document contained in a network, and contains at least one ABATA in the aforementioned network, and consists of a controller which takes out the picture of the aforementioned electronic filing document from the aforementioned network, and at least one of the aforementioned ABATA contained in the aforementioned network memory is related with the aforementioned electronic filing document, and is characterized by to be taken out aforementioned ABATA in connection with drawing of the aforementioned electronic filing document.

[Claim 28] It is the electronic-filing-document display which is electronic-filing-document display according to claim 27, and is characterized by aforementioned ABATA being a specific person's expression.

[Claim 29] It is the electronic-filing-document display characterized by being electronic-filing-document display according to claim 27, and aforementioned ABATA containing at least one behavior script.

[Claim 30] ABATA with which it is electronic-filing-document display according to claim 27, and the aforementioned electronic filing document was related the account of before including at least one object -- the above -- the electronic-filing-document display characterized for being related with the aforementioned object by applying an AREF property to A tag in the HTML name attribute of one object even if few by things

[Claim 31] The document communication-of-information method characterized by being the method of transmitting the information about a document from a certain individual, defining the information source, relating action of the lot reflecting the aforementioned individual's attribute with the aforementioned information source, and appending the aforementioned information source to the aforementioned document.

[Claim 32] It is the document communication-of-information method which is the document communication-of-information

method according to claim 31, and is characterized by the aforementioned document being a HTML document.

[Claim 33] It is the document communication-of-information method characterized by being the document communication-of-information method according to claim 32, and appending the aforementioned information source to the aforementioned HTML document by applying an AREF property to A tag in the HTML name attribute of the aforementioned document.

[Claim 34] The document communication-of-information method which is the document communication-of-information method according to claim 31, and is further characterized by displaying the aforementioned information source and performing the group of at least one aforementioned action when the aforementioned document with at least one object is displayed, it is characterized by choosing one of the aforementioned objects and the object is chosen.

[Claim 35] It is the document communication-of-information method characterized by the bird clapper or more from one of the being the document communication-of-information method according to claim 34, and choosing that selection of an object drags the aforementioned information source on the aforementioned object, choosing the information source, and the aforementioned object.

[Translation done.]